Slant/Fin®

Residential • Gas-Fired • Hot Water Boilers

CONCEPT 21

USER'S INFORMATION MANUAL

For your safety, before operating this boiler, read this manual

WELCOME TO OUR VALUED CUSTOMER

You are now the owner of a Slant/Fin Concept 21 gas-fired boiler, another quality heating product designed and manufactured by an industry leader, to provide your family with many years of reliable comfort and trouble-free performance.

The care and maintenance of your new boiler is important to prevent a hazardous condition which might result from lack of proper servicing. Therefore, you should perform regular "owner" inspections as described in this manual (and report any concerns to a qualified service technician) as well as have your boiler serviced by a qualified service technician at least once a year, preferably before the beginning of each heating season.

LIGHTING INSTRUCTIONS

Locate, read and then follow the procedures on the lighting instructions label attached to the boiler. For reference, we have reproduced those instructions in this manual. A part number is printed in the lower right corner of the label; use this part number to find your particular lighting reference located at the rear of this manual.

WARNING: If the information in this manual is not followed exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

- DO NOT store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.

- WHAT TO DO IF YOU SMELL GAS
- **DO NOT try to light any appliance.**
- **DO NOT touch any electrical switch; DO NOT use any phone in your building.**
- **Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.**
- **If you cannot reach your gas supplier, call the fire department.**

- Installation and service must be performed by a qualified installer, service agency or the gas supplier.

This manual must be left with owner, hung on or adjacent to the boiler. Owner should retain manual for future reference.

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IMPORTANT SAFETY INFORMATION FOR YOU

Your boiler must be installed, serviced and repaired by a qualified service technician only. Owner must not attempt to install, service or repair this boiler.

Should overheating occur or the gas supply fail to shut off, DO NOT turn off or disconnect the electrical supply to the pump. Instead, shut off the gas supply at a location external to the appliance.

DO NOT use this boiler if any part has been underwater. Immediately call a qualified service technician to inspect the boiler and to replace any part of the control system and any gas control which has been underwater.

DO NOT attempt to add water to boiler or system.

An automatic water feed should have been installed (based on local codes) to maintain proper water level; ask your installer if this device was installed.

Keep boiler area clear and free from combustible materials, gasoline and other flammable vapors and liquids.

DO NOT store anything against the boiler or let anything accumulate in area surrounding the boiler.

DO NOT allow anything to accumulate around or block air flow at outside vent terminal (i.e. leaves, shrubs, snow).

For closet installations, DO NOT allow anything to block air flow at closet ventilation air openings.

DO NOT use water from heating system for cleaning or any other use.

DO NOT place clothing on the boiler or venting system to dry.

TAKING CARE OF YOUR BOILER

At least once each month during the heating season, perform the following inspections:

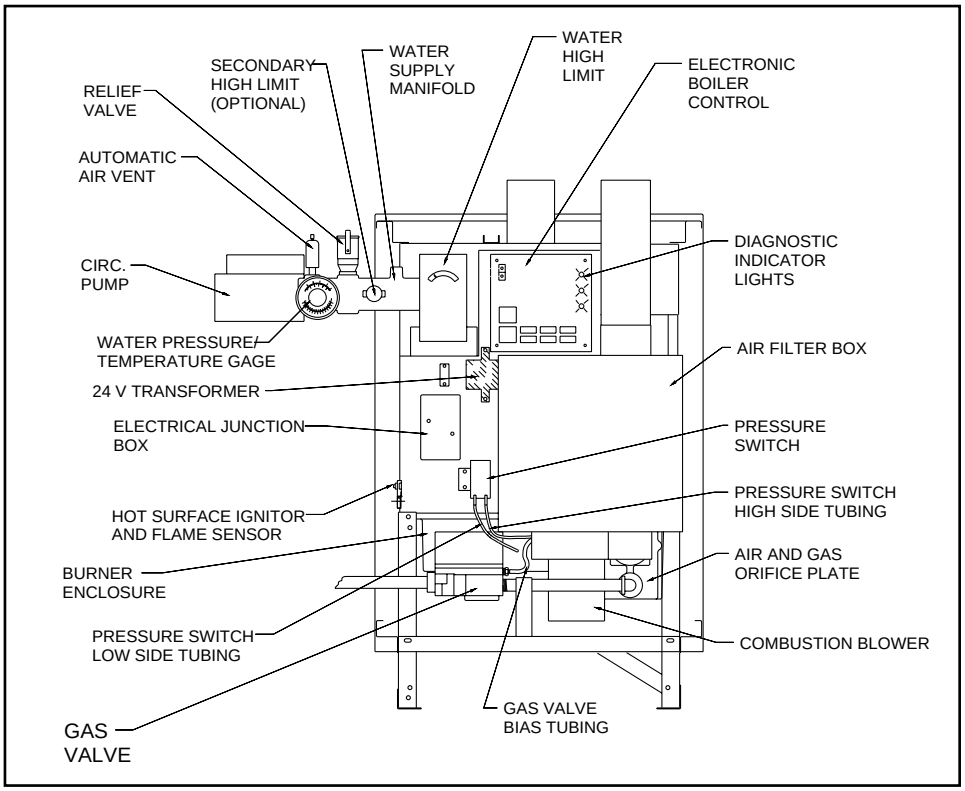
Check vent tubing: Look for leakage at joints and sagging of vent tubing runs. If evident, call a qualified service technician.

Check vent terminal (outside): Look for and remove any obstructions (i.e. leaves, shrubs, snow).

Check water piping: Look for leaks around boiler and at all joints. If evident, call a qualified service technician.

Check system water pressure: The temperature/pressure gage indicates the pressure in the boiler for each water temperature. For most installations, it should indicate about 12 psi to 15 psi for 70° to 100° water temperatures and from 15 psi to 25 psi for temperatures up to 240°. Ask your installer or service technician to explain and show you what normal pressures to look for. If pressure decreases from normal, the system is losing water; if pressure increases from normal, the boiler relief valve will open to relieve pressure (water will be evident on floor below relief valve discharge piping). In either case, call a qualified service technician.

Check condensate drain and drain trap: Periodic inspection should be made of this assembly for deterioration of the tubing and to insure that the trap is not plugged. If it is plugged or appears to have excessive sediment in it, it should be removed from the drain assembly, straightened out to clear the obstruction, reformed, filled with water and reinstalled as before.



At least once a year, check the air filter: Replace it (recommended) or clean it. Remove the boiler front cover to access the filter box. Turn latches 1/4 turn on filter box cover to remove filter.
Slant/Fin replacement air filter, part number 66-0515, must be used. The filter can be cleaned with soap and water. Shake off excess moisture and after drying, spray with an adhesive-type air filter spray. Make sure filter box cover is secured tightly after replacing.
In the case of severe outside dust/dirt conditions which cause above-average accumulation on the filter, it may be necessary to change it (or clean it) more often. This procedure may be done by user or service technician, providing a record is kept of each replacement or cleaning date to assure an established diligent routine.

ANNUAL TECHNICIAN INSPECTIONS
Before each heating season, call your qualified service technician to perform the following inspections (and repair any problems encountered).

Check vent system: For corrosion, obstructions, leaks or sagging. Will require disassembling and resealing of vent tubing.

Check water system: For water piping leaks, properly filled boiler and proper system air elimination.

Check gas piping: For gas valve and piping leaks.

Check boiler controls: For correct settings and functioning. To include safety controls and calibration.

Check air filter: Replace (recommended) or clean.

System heat exchanger and burner: For sooting, corrosion or improper operation.

Combustion blower: It's a sealed component which does not require lubrication.

Circulator: Some models require lubrication. S.A.E. #20 oil recommended .

WHAT THE INDICATOR LIGHTS TELLS YOU

The Concept 21 control board, located behind the boiler front cover, has a set of LED indicator lights which provide important information at a glance about boiler operation:

Power Indicator (GREEN): Steady ON means there is electrical power to the boiler. Light will come on when power is provided to boiler.

Diagnostic Indicator (RED): Steady ON or intermittent flashing indicates a system operation problem.

Flame Indicator (AMBER): Steady ON means the boiler is running and proper flame detection is sensed.

IN CASE YOUR BOILER SHUTS DOWN

Before calling a qualified service technician, check the following first:
- Room thermostat is calling for heat?
- Fuse or circuit breaker is OK?
- Boiler service switch is ON?
- Gas supply is available to gas meter?
- Manual main gas shutoff is open?
- Boiler gas valve knob is in ON position?

Then, observe indicator lights: You can help provide useful information to the service technician so the technician can arrive with appropriate replacement parts.

Carefully note the red diagnostic indicator light. (It can be viewed by looking through the vents in the front cover.) When a system failure occurs, and there's power to the boiler, the indicator light will show a series of quick flashes. There will be a short interval between the series when the indicator stops flashing.

BOILER FAILURE CODES

Indicator	Fault Indicated
Steady on	Control internal failure
1 Flash	High limit open
2 Flashes	No ignition
3 Flashes	Pressure switch problem
4 Flashes	Ignitor failure
5 Flashes	Flame signal loss
6 Flashes	Improper flame signal

Count the number of flashes that occur after the short no-flashing interval. Using the chart above, determine correct failure code for number of flashes you counted.

Call a qualilfied service technician and report your boiler model plus the number of flashes you counted and the code for the flashes.

Note: The boiler will attempt restart each hour and after a power interruption. If boiler restarts, diagnostic light will turn OFF. If boiler does not restart, diagnostic light will return to either steady-on or the series of flashes.

LIGHTING INSTRUCTIONS (Reference For Labels 65-0640 and 65-0645)

FOR YOUR SAFETY READ BEFORE OPERATING

WARNING: If you do not follow these instructions exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

A. This appliance does not have a pilot. It is equipped with an ignition device that automatically lights the burner. DO NOT try to light the burner by hand.

B. BEFORE OPERATING smell all around the appliance area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor.

WHAT TO DO IF YOU SMELL GAS
- DO NOT try to light any appliance.
- DO NOT touch any electric switch; DO NOT use any phone in your building.
- Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
- If you cannot reach your gas supplier, call the fire department.

C. Use only your hand to turn the gas control knob or depress and move the gas control selector arm. NEVER use tools. If the knob will not turn or selector arm will not depress or move by hand, DON'T try to repair it, call a qualified service technician. Force or attempted repair may result in a fire or explosion.

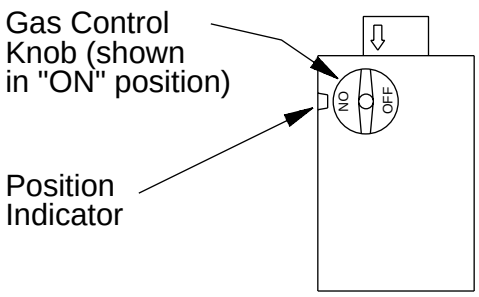
D. DO NOT use this appliance if any part has been underwater. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system and any gas control which has been underwater.

OPERATING INSTRUCTIONS (Label 65-0640)

- **STOP!** Read the safety information above on this label.
- Set the room thermostat to lowest setting.
- Turn off all electric power to the appliance.
- This appliance is equipped with an ignition device which automatically lights the burner. DO NOT try to light the burner by hand.
- Remove control access panel.
- Turn gas control knob clockwise to “OFF” position.
- Wait five (5) minutes to clear out any gas. Then smell for gas, including near the floor. If you smell gas, **STOP!** Follow "B" in the safety information above on this label. If you don't smell gas, go to the next step.
- Turn gas control knob counterclockwise to “ON” position.
- Replace control access panel.
- Turn on all electric power to the appliance.
- Set room thermostat to desired setting.
- If the appliance will not operate, follow the instructions “To Turn Off Gas To Appliance” and call your service technician or gas supplier.

TO TURN OFF GAS TO APPLIANCE

- Set room thermostat to lowest setting.
- Turn off all electric power to the appliance if service is to be performed.
- Remove control access panel.
- Turn gas control knob clockwise to “OFF” position.
- Replace control access panel.



OPERATING INSTRUCTIONS (Label 65-0645)

- **STOP!** Read the safety information above on this label.
- Set the room thermostat to lowest setting.
- Turn off all electric power to the appliance.
- This appliance is equipped with an ignition device which automatically lights the burner. DO NOT try to light the burner by hand.
- Remove control access panel.
- Depress and move gas control selector arm left to “OFF” position. Note: Arm cannot be turned to “OFF” unless arm is pushed in slightly. DO NOT force.
- Wait five (5) minutes to clear out any gas. Then smell for gas, including near the floor. If you smell gas, **STOP!** Follow "B" in the safety information above on this label. If you don't smell gas, go to the next step.
- Depress and move gas control selector arm right to “ON” position.
- Replace control access panel.
- Turn on all electric power to the appliance.
- Set room thermostat to desired setting.
- If the appliance will not operate, follow the instructions “To Turn Off Gas To Appliance” and call your service technician or gas supplier.

TO TURN OFF GAS TO APPLIANCE

- Set room thermostat to lowest setting.
- Turn off all electric power to the appliance if service is to be performed.
- Remove control access panel.
- Depress and move gas control selector arm left to “OFF” position.
- Replace control access panel.

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